

E-4

MAYNORD

QUANTITATIVE VS. QUALITATIVE

Maynard
9/3/02

10.12. Quantitative versus Qualitative Use of Models Before summarizing this authors position on the categories of use of the micromodel, the terms quantitative and qualitative use of a model must be defined. Quantitative use to this author means that numbers are assigned to features in, or results from, the model. There are two levels of quantitative use that should be considered. The first and lowest level of quantitative use is where features in the model such as dike elevations, lengths, angles, and number are stated as being the characteristics of an alternative. This is a quantitative use of the model even if the alternative is evaluated on a qualitative basis. The second, higher level of quantitative usage is where results from the model are given numbers. An example of the second, higher level of quantitative use is taking the width of the channel where navigable depths exist as being representative of the prototype. Another example of this higher level of quantitative usage is employing bed contours (bathymetry) of the model to specify the bed contours in another model. An example of qualitative use of a model is when the model is used to show that dike alternative A increased channel depths in crossing X and dike alternative B, which contained higher dikes, further increased channel depths in crossing X. No numbers are given to alternative features or results in a qualitative model.